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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,252	12/14/2001	Kenneth David Cornett	CM02624J/10-39	6072
51894	7590	10/18/2006	EXAMINER	
LAW OFFICE OF CHARLES W. BETHARDS, LLP			VO, NGUYEN THANH	
P.O. BOX 1622			ART UNIT	PAPER NUMBER
COLLEYVILLE, TX 76034				2618

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/017,252	CORNETT, KENNETH DAVID
	Examiner Nguyen T. Vo	Art Unit 2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 September 2006.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 12-22 is/are withdrawn from consideration.
- 5) Claim(s) 1-11 is/are allowed.
- 6) Claim(s) _____ is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) 12-22 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 14 December 2001 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date. _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group I, claims 1-11 in the reply filed on 9/7/2006 is acknowledged. The traversal is on the ground(s) that (i) there is no undue burden on the examiner, and (ii) any search for the respective elements of claims 1-11 will necessarily result in finding the relevant art for claims 12-20 and 21-22. This is not found persuasive because of the following reasons:

With respect to applicant's ground (i), the examiner contends that there is undue burden on the examiner for searching three distinct inventions as clearly pointed out in the restriction requirement mailed on 08/07/2006. More specifically, the searches for group II (claims 12-20) and group III (claims 21-22) are not required for group I (claims 1-11). Group II (claims 12-20) recites converting RF signal to IF signal which is not required in Group I (claims 1-11). Group III (claims 12-20) recites a method of mixing an applied current which is not required in Group I (claims 1-11), specifically subsequently directing a current flow from the first set of the series of isolated lateral potential wells to a first output terminal and a current flow from the second set of the series of isolated lateral potential wells to a second output terminal as a result of applying the first and second voltages.

With respect to applicant's ground (ii), the examiner agrees with applicant that group II recites some limitations which are also in group I (for example, RF input, plurality of polysilicon fingers). However, as clearly discussed in (i) above, Group II

(claims 12-20) recites converting RF signal to IF signal which is not required in Group I
(claims 1-11).

The requirement is still deemed proper and is therefore made FINAL.

Allowable Subject Matter

2. Claims 1-11 are allowed.

Regarding claims 1-11, the prior art of record fail to disclose or render obvious a semiconductor signal manipulating device comprising a combination of a signal input carrier, a plurality of conductive fingers and a signal manipulating means as specified in independent claim 1.

Conclusion

3. This application is in condition for allowance except for the following formal matters:

Claim 8 is objected to because of the following informalities: the recitation "the plurality of heavily doped output contacts" should be changed to –the plurality of output contacts--; the recitation "the first set" should be changed to –a first set--; the recitation "the second set" should be changed to –a second set--. Appropriate correction is required.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Arimoto (5,304,859); Kinoshita (US 2001/0008286 A1); and Jovenin (US 6,529,720) disclose semiconductor mixing devices.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T. Vo whose telephone number is (571) 272-7901. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nguyen Vo

Nguyen Vo
10-15-2006

NGUYENT.VO
PRIMARY EXAMINER